

4 ordering the plurality of memory access requests, wherein a first request of the  
5 plurality of memory access requests to an available memory location precedes a second request  
6 of the plurality of memory access requests to an unavailable memory location; and  
after the ordering, servicing the first request.

1 54. (NEW) The method of claim 53 wherein plurality of memory access  
2 requests comprises at least three memory access requests.

1 55. (NEW) In a data processing system, a method for reordering at least  
2 three memory access requests, the method comprising:  
3 accepting the memory access requests;  
4 selecting at least two of the at least three memory access requests, the at least  
5 two having available memory locations; and  
6 scheduling at least one of the at least two of the at least three memory access  
7 requests.

1 56. (NEW) In a computer system, a method for processing a plurality of  
2 memory access requests, the method comprising:  
3 receiving said plurality of memory access requests by a queue;  
4 reordering said plurality of memory access requests in the queue based on the  
5 availability of target memory addresses, wherein a target memory address is associated with a  
6 memory access request of the plurality of memory access requests;  
7 after said reordering, servicing said plurality of memory access requests.

1 57. (NEW) The method of claim 56 wherein said reordering provides for at  
2 least two memory access requests with available target memory addresses.

1 58. (NEW) The method of claim 56 wherein said servicing is done  
2 sequentially.

1 59. (NEW) ) The method of claim 56 wherein said queue is a priority queue,  
2 wherein a first memory access requests with higher priority than a second memory access  
3 request is executed before said second memory access request.

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cont.  
1 60. (NEW) The method of claim 56 wherein said reordering results in a  
2 queue having a first memory access request with an available target memory address preceding  
3 a second memory access request with an unavailable target memory address.

1 61. (NEW) The method of claim 56 further comprising, after said servicing  
2 of said plurality of memory access requests, returning results of said servicing according to a  
3 received order of said plurality of memory access requests by said queue.

1 62. (NEW) A data processing system that reorders memory access request,  
2 the system comprising:

3 a request buffer for holding a plurality of memory access requests received in a  
4 first order;

5 an availability determiner for determining availability of memory locations  
6 requested by said plurality of memory access requests; and

7 a reordering unit responsive to said availability determiner for arranging said  
8 plurality of memory access requests in a second order based on the availability of memory  
9 locations, wherein a first memory request of said plurality of memory access requests with an  
10 available memory location precedes a second memory request of said plurality of memory  
11 access requests with an unavailable memory location.

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cont.  
1 63. (NEW) The method of claim 62 further comprising an execution unit for  
2 executing said plurality of memory access requests based on said second order.

1 64. (NEW) A priority queue in a computer system for determining an  
2 execution order for executing a plurality of memory access requests, the priority queue  
3 comprising:

4 a memory unit for storing said plurality of memory access requests in a  
5 receiving order; and

6 an ordering module for determining said execution order from said receiving  
7 order, said execution order is based on availability of target memory addresses associated with  
8 said plurality of memory access requests.